ROTORUA
LAKES COUNCIL
Te kaunihera o ngā roto o Rotorua

Owner & Occupier's Manual

STEP Tank System

Council's Contact: (07) 348 4199 (24 hours)

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Introduction

This manual contains information for owners and occupiers of properties with Septic Tank Effluent Pumping (STEP) systems on their property.

Please keep this manual in a prominent place on the property for quick reference, particularly in the case of an alarm.

Emergency Contact Numbers

For help with your sewerage system please phone Rotorua District Council on (07) 348 4199 (24 hours).

The operator may ask you several questions to try and resolve the issue over the phone, if unable we will dispatch a contractor to the site.

What if the Alarm Sounds?

Infrequent short duration alarms	Frequent short duration alarms	Continuous alarm
•**Cause** •Excessive water entering the chamber causes the water level to rise too quickly i.e large gathering increases use or unusual amount of laundry. •Stormwater inflow into tank (alarm occurs during rainfall events) •**Solution** •Reduce water usage •Ensure stormwater pipes are not connect ed to wastewater system	•**Cause** •Excessive water entering the chamber causes the water level to rise too quickly i.e large gathering increases use or unusual amount of laundry. •Stormwater inflow into tank (alarm occurs during rainfall events) •**Solution** •**If issue continues please report to the District Council by phoning (07) 348 4199**	•**Cause** •Pump failure •Float failure •Hole in tank •Screen blocked •**Press button on the control panel to silence ALARM** •**Solution** •**Report to the District Council by phoning (07) 348 4199**

Control Panel

Interruption to Power Supply

In the case of a power supply failure, the STEP pump (including alarms) will not function. The chamber has approximately 38-42 hours of storage.

In the event of a significant (more than a few hours) power cut, please minimize the amount of water being used. Some tips on reducing water are:

- Keep showers brief
- Avoid taking baths – if a bath is required, leave the water in until the power comes on if possible
- Turn off taps when not in use
- Avoid using dishwashers and washing machines where possible

If the alarm sounds immediately after a power outage, press the button on the control panel to silence the alarm.

High storage levels can trigger the alarm during a power outage but will return to normal once power has been restored. If the alarm continues for more than one hour please phone the District Council on **(07) 348 4199**.

Do not turn off the power to the pump unit or remove the fuse.

If it appears that the power outage may last longer than 24 hours, the District Council may visit your property to empty the system.

Frequent Alarm Troubleshooting

If the alarm sounds and then turns off on a regular basis please consider the following:

- Do you have an appliance connected to your wastewater system that empties a large amount of water quickly into the sewerage system?
- Is the alarm sounding during or immediately after rain? This may indicate that you have stormwater entering your sewerage system.

These issues will need to be dealt with as they may cause you significant problems, so please report to the District Council by phoning (07) 348 4199. Continue to use your sewerage system as normal.

To ensure that the sewerage system operates efficiently and the likelihood of any overflows is reduced please do not flush the following items.

Non-Flushable Items

To avoid blockages and damage to the Pressure Sewerage System the following items should **NOT** be placed into the system.

- glass
- metal
- gravel or sand, including aquarium stone
- seafood shells
- socks, rags or clothes
- plastic
- diapers, sanitary napkins or tampons

- kitty litter
- explosives
- flammable materials
- lublicating oil, grease
- strong chemicals
- petrol, diesel
- storm water run off.

Please note that all **wet wipes, even those advertised as flushable, are not appropriate** for the STEP system. Traditional toilet paper is the only paper product that should be discharged to the sewer.

If you are in doubt about any substances entering the sewerage system, please phone the District Council on 348 4199.

Going on Holiday

It is suggested that before you depart that you:

- Advise your neighbours of the procedure should the alarm be activated. They can contact us in the event of the alarm sounding.
- **Do not turn off the power to the pumping unit**. If the unit is turned off at the power board, the alarm will not sound to warn neighbours if a problem does occur.

It is highly unlikely that there will be an alarm incident while you are away on holiday, as no sewage will be entering the system.

Repairs to the STEP Tank system

Rotorua District Council will service and repair the STEP Tank system installation on your property, and in the street. The property owner is responsible for all household plumbing that drains to the STEP tank system.

Repairs to the property owner's plumbing system, up to the connection to the STEP tank, are at the owner's expense, as are repairs for any other form of sewerage system.

Warranties / Repair Costs

Operation and servicing of the system is included in the general sewerage rates paid by the owner to the District Council.

The exceptions to this will be if you have:

- Discharged matter into the STEP Tank that you have been advised not to,
- Tampered with the pumping unit, storage tank or controls,
- Interfered with or damaged the pump discharge line or boundary kit,
- Sealed off the venting to the unit.

Service Arrangements

The STEP tank system requires regular yearly and three yearly inspection and cleaning which will be undertaken Rotorua Lakes Council contractors.

Cleaning involves the removal of the sludge layer by Sucker truck. The frequency of this work will be dependant on the amount if use and will vary between properties.

Frequently Asked Questions

Burst Mains

Wet ground or water coming from the ground between the STEP Tank and the boundary kit may indicate a burst pipe.

If you think the pumping discharge line is damaged please phone the District Council on **348 4199** immediately and turn off the power to the pump at your power board.

During a burst pipe incident minimise the discharge of wastewater to the system

Loading on the STEP Tank Covers

The storage tank cover is safe for walking on but vehicles must keep off the cover**.**

Please do not cover the lid with any large objects.

Roof and Rainwater

The pumping unit is **NOT** designed to accommodate stormwater. The District Council does not permit the discharge of stormwater into any sewerage system. Stormwater should not be discharged into your septic tank, as it will affect the efficiency of the system. If you notice the alarm triggering during rain events, it is possible a downpipe or stormwater drain is connected to the sewer system.

Building a Garage, Carport or Garden Shed

No temporary or permanent structure can be built over the pump discharge line, boundary kit or STEP Tank.

Building an Extension to Your House

The pump discharge line can be moved to accommodate extensions to the house or construction of a swimming pool, shed etc. When contemplating any modifications to the property, the owner needs to check the property sewerage service diagram to see where the on-site installations are, plan the property extensions with that in mind and phone the District Council to determine what will be involved in any relocation of the system.

You should not build over the STEP Tank, discharge line and boundary kit. Please phone the District Council on 348 4199 to discuss options for relocation of the sewerage system.

Landscaping Your Garden

It is important that sufficient space is available to access the unit at all times, in case servicing is required.

Landscaping over the pump discharge line is permitted, provided the STEP Tank cover remains accessible for service, and is not covered or situated in a low lying area where water may pond around the lid

If the pump discharge line requires repairs, the council will need to access the pipe. If landscaping needs to be removed, we will endeavour to minimise disruption to the garden.

Installing a Swimming Pool or Large Spa

If you already have a swimming pool or large spa, you should continue to dispose of water or backwash from that installation to ground soakage.

If you are required to dispose of water from your swimming pool or large spa pool, or backwash water to the sewerage system due to geotechnical and/or flooding issues, please contact the District Council and discuss options for discharging into the sewerage system. If you discharge into the sewerage system at a rate greater than the pumping capacity of the system, your alarm will sound and overflows from the house plumbing or STEP Tank cover could occur.

Large Gatherings of People

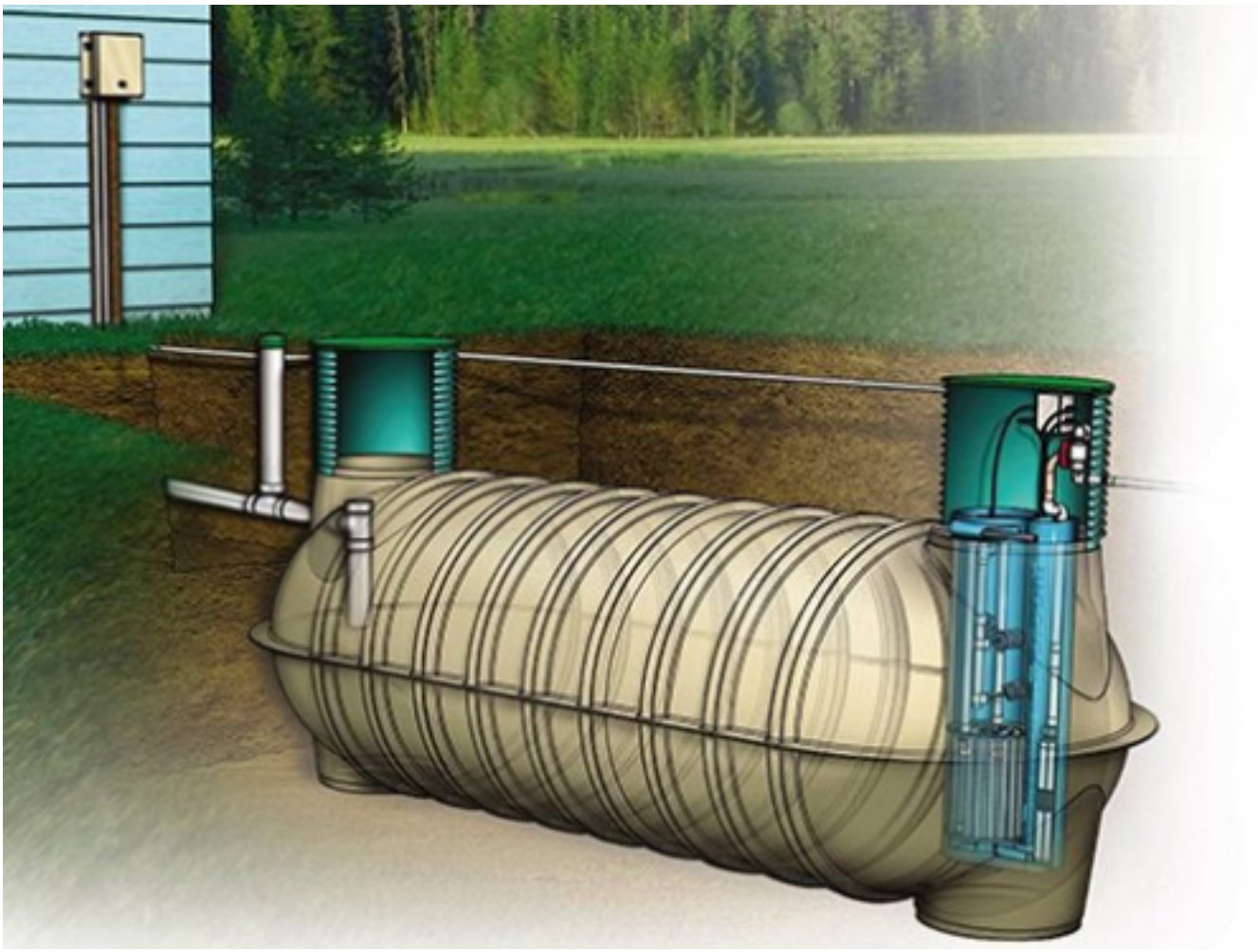
Sudden loads on the system, either through parties or large numbers of visitors staying overnight, will not impact upon the sewerage system. The unit will pump more frequently to cope.

Please read on for detailed information about the STEP Tank system components on your property

Parts of Your STEP Tank Sewerage System

The Step Tank sewerage system comprises five main parts:

1. A boundary valve assembly inside a box with a RED lid located just inside or outside your property boundary, and collectively known as the boundary kit,
2. A STEP Tank with PVC access risers and fibreglass lids which contains a Biotube™ Effluent Filter and an effluent pump,
3. A discharge assembly and pressure line from the STEP tank to the boundary kit,
4. The electrical power controls and alarm,
5. The house wastewater line.



Septic Tank Effluent Pump (STEP) System

The septic process tank is a structurally sound, water tight vessel made of fibreglass that accepts raw sewerage from a home. The tank has a working volume of approximately 3700 litres and a maximum volume of 4700litres. The tank is 3.07m long, 1.83m wide and 2.35m tall (this includes 2.09m high tanks and 0.45m risers from the tank to ground level).

In the tank the heavy solids in the sewage fall to the bottom of the tank to form the sludge layer and the light solids in the sewage float to the top of the tank to form the scum layer. The septic tank is very efficient in digesting the sewage, more than 40% of overall sewage treatment takes place in the tank. Solids accumulate slowly in the tank over many years and have to be pumped out periodically.

The Biotube^{TM} effluent screen further filters the effluent before it is pumped to the sewerage network.

The STEP tank risers should protrude out of the ground at all times. This will prevent water flowing into the tank and provide access for service calls when required.

The STEP tank lids should not be buried or covered in any way.

Boundary Kit

Between the pump discharge line and the street main a one-way valve and isolation valve has been installed. This is enclosed in a box with a RED lid. This will:

- Prevent flow from other properties entering your service line,
- Allow your property to be isolated for repairs to be done,
- Allow flushing of the system if required.

Under no circumstances should you operate these valves.

Pump Discharge Line

The pump discharge line connects the pumping unit to the boundary kit. This line is used to discharge sewage from the property.

The pump discharge line should not be moved or altered in any way.

Electrical Power Controls and Alarm

The power and control functions for the pump are located in a control panel mounted on the wall of your house or garage, near the STEP tank. A generator connection and switch is located next to the panel for the use of the District Council in circumstances where power to your house or local area is disrupted for a lengthy period.

The electrical cable between the house, the alarm panel and the pump chamber is located in a duct buried 300 – 400mm below ground level. Please be careful when you or other contractors undertake excavation work on your property, refer to the Council's property files for "as-built" information regarding the location of the electrical cables and the discharge line.

Only District Council personnel are to work or service any of the electrical power and alarm installation. Do not attempt to connect any power supply to the generator connection point.

The electrical equipment inside the control/alarm panel and the alarm light run on 240-volt power. Please notify the council of any damage to this installation and stay away from damaged parts.

Household Wastewater Line

The household wastewater line collects waste from your kitchen, toilet, and other sanitary fittings, and drains under gravity flow to the STEP tank. The household wastewater line is your responsibility and when damaged you should contact a licensed plumber or a licensed drain layer, depending on where the problem is, to fix any faults.

How a Pressure Sewerage System Works

Pressure sewerage systems differ from conventional gravity systems in that they depend on a pumping unit to remove the sewage from the property. A small pumping unit is installed in the STEP tank and liquid effluent is pumped into our sewerage network located within the street.

The STEP tank system and pumping unit works in the following manner:

- The STEP tank will hold household sewage until its level reaches the 'pump-on' level. When this occurs, the pump will automatically turn on and pump the liquid effluent to the street main. The solid layer of sludge at the bottom of the tank will be pumped out by an approved contractor at regular maintenance intervals.
- When the level falls to a certain pre-set level, the pump will automatically switch off.
- Typically, a pumping cycle will take between one to three minutes, and will occur several times per day around the periods of high usage.
- If the pump fails to operate, the level of sewage will continue to increase until it reaches an 'alarm level' where an audible alarm will automatically turn on. This level is about one third of the total capacity of the tank, so there is still a lot of capacity within the tank once the alarm is activated.
- The alarm (both sound/light) may also be activated as a result of power returning after a power outage. In all cases the alarm will automatically shut off when the storage level drops below the alarm level. The alarm is in the control panel that has been attached to the house. The alarm can be switched off by pressing the small button on the front of the control panel.
- There is approximately 38–42 hours of storage available in the tank after the alarm has been activated. Therefore you can continue to use essential services after the alarm sounds, although we strongly recommend you keep water use to a minimum and avoid activities which are heavy water users until the system is repaired.